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DEPARTMENT OF AGRICULTURE

THE STUDY OF FORESTRY

REPORT PREPARED FOR
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DEPARTMENT OF AGRICULTURE

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By

HENRY S. GRAVES

Formerly Forester, United States Forest Service

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THE STUDY OF FORESTRY.

The forest resources of Brazil are unmatched anywhere in the world. In extent, in number of species of trees, in potential values of products, the Brazilian forests are unique. They promise to be a factor of profound importance in the economic development of the country. Their permanent service in the upbuilding of Brazil will, however, depend upon the manner in which they are handled. It would be a great misfortune if they were exploited with the same disregard of the permanent interests of the nation that has characterized the history of the forests of the United States. With the application of sound and practical methods of forestry, the forest resources of Brazil will serve indefinitely as a source of great national wealth.

A GREAT FIELD FOR FORESTRY.

In many sections of Brazil the forests have already been heavily cut. A large part of this cutting has been largely done in clearing land for cultivation and pasture. There is, however, a considerable export trade in certain classes of timber and in various special products of the forest, and lumber is being cut in increasing quantities for home consumption. It is inevitable that in the near future there will be a much greater demand from other countries for Brazilian timber. The virgin forests in the temperate regions are being depleted very rapidly. Very soon America must look elsewhere for substitutes for hickory, ash, walnut, high-grade oak, and other material. It is a great opportunity for Brazil to supply this need. As soon as the qualities of the local species are better known, foreign manufacturers will demand them. There will then come the problem of exploration and research to determine the location of merchantable bodies of timber; capital and modern methods of lumbering will be needed to exploit the forests; and a lumber industry of great magnitude will be built up which will be an important factor in the economy of the nation. But in its own protection and to guard its future interests Brazil will have to see to it that the forests are cut in a way to insure perpetuation and to prevent devastation.

Brazil has already taken the first step in the passing of a comprehensive forest code. Undoubtedly further legislation is required to establish and build up the organizations necessary to carry on the public work in forestry. In the United States but little progress in forestry was made until the Federal Government undertook the proper administration of the lands owned by the Nation and until there was in the country a body of professional foresters. The early American foresters obtained their

training in the European schools. In recent years there have been established in the United States nearly 20 well-equipped forest schools and there are to-day from 500 to 1,000 trained foresters working in the public service, in educational work, and in the handling of private forest lands. Brazil offers one of the greatest opportunities in the world for forestry work. The country needs many well-trained men and it is hoped that young Brazilians will become interested in forestry as offering an attractive career and an opportunity to render a great service to the nation.

Ultimately it would be very desirable to have some high-grade forest schools in Brazil, but until this time comes those who desire a training may find opportunities in the schools of other countries. While the details of applied forestry differ according to the character of the forests, the underlying principles are the same in the forests of the Tropics as in the temperate regions. One or two of the forest schools in the United States make a special feature of training young men for tropical work, giving them the foundations necessary for a career in Central or South America, or in the Philippine Islands and East Indies.

For the benefit of those young men who may be considering forestry as a career and may wish to know about the possibilities of educational work in the United States, the following brief sketch of the different American schools has been prepared:

FOREST SCHOOLS IN THE UNITED STATES.

There are 19 collegiate institutions which offer a full technical training in forestry. In addition there are a number of agricultural colleges that offer limited courses in connection with horticulture. The description in the succeeding pages applies only to those institutions that give a regular professional course of four or five years. For the convenience of those who may not be familiar with the geography of the United States the schools are described in five groups according to their location in the northeastern portion of the country, in the central west, in the Southern States, in the Rocky Mountain States, or in the Pacific Coast States.

I. FOREST SCHOOLS IN THE NORTHEASTERN STATES.

Seven institutions in the Northeastern States offer a full training in forestry. This is the most densely populated region of the country, where the demand for forest products is very great and where the most intensive forestry is practiced. The schools are within easy reach of New York City, the port of disembarkation for most Brazilian students. Excellent facilities are afforded for the teaching of forestry, for there are many illustrations of forest practice in both softwood and hardwood forests.

A. YALE UNIVERSITY, SCHOOL OF FORESTRY, NEW HAVEN,
CONNECTICUT.

New Haven, Connecticut, the seat of Yale University, is a thriving city located on Long Island Sound and about two hours' ride from New York City. The school of forestry, a part of Yale University, is the oldest of the American forest schools. It has long been a recognized leader in forest education in the United States. Established in 1900, its long list of graduates has supplied the heads of a number of the other forest schools in the United States and a majority of their teaching force. The present Chief of the Forest Service of the United States is a graduate of this school and the present dean of the school was formerly the Chief of the Forest Service. Two of its graduates have been at the head of the bureau of forestry of the Philippines, one holding that position at the present time. Many of the State foresters are Yale men. The teaching force of the Yale School of Forestry consists of seven men, each of whom is a leader in his specialty. Many of the textbooks on forestry have been written by these men.

The Yale School of Forestry is cosmopolitan in character; she numbers among her graduates students from Norway, South Africa, India, the Philippines, China, Japan, South America, Australia, and Canada. It is the only school that offers special courses in tropical forestry. The instructors in lumbering and tropical forestry have practiced their profession in tropical countries. The professor of forest products is devoting much of his time to the study and classification of tropical American woods.

Yale offers a two-year course in forestry for those who hold a degree from a collegiate institution, leading to the degree of master of forestry. Undergraduates of the university may take certain courses in forestry and complete their professional work in one year after graduation.

B. CORNELL UNIVERSITY, NEW YORK STATE COLLEGE OF AGRICULTURE,
DEPARTMENT OF FORESTRY, ITHACA, NEW YORK.

The first forest school of collegiate grade in the United States was established at Cornell University but was suspended for some time and then reorganized as a department in the college of agriculture. Cornell University is situated in the western part of the State of New York in the city of Ithaca, an eight-hour ride from New York City. The forestry instruction given at Cornell is of very high grade. Besides a full undergraduate course of four years, leading to a degree of bachelor of forestry, there is a graduate course of one year, on the completion of which a degree of master of forestry is granted. There are six instructors who devote all of their time to purely forestry subjects. The faculty and many of the graduates of this school occupy eminent places in the profession. The present dean was one of the first in the country to receive

training in forestry and was formerly the head of the government forestry work in the Hawaiian Islands and hence has had a long experience in tropical forestry.

C. SYRACUSE UNIVERSITY, THE NEW YORK STATE COLLEGE OF FORESTRY,
SYRACUSE, NEW YORK.

Syracuse University is situated at Syracuse, New York, a large city located in the western part of New York State and about eight hours' ride from New York City. The college of forestry, Syracuse University, is the only one that has brought practically all the technical forestry subjects and those allied to them under one administrative control. It is the most specialized of all the forest schools. In equipment and in number of instructors and students it is the largest forest school in the country. Its faculty, consisting of some 40 instructors, is divided among the following departments of the school: Silviculture, wood technology, forest engineering, forest utilization, forest botany, forest entomology, forest zoology, landscape engineering, forest chemistry, and economics. The school offers a four-year course in general forestry leading to the degree of bachelor of science and a five-year course leading to the degree of master of forestry. It also offers courses which lead to the degrees of master of science and doctor of philosophy, and maintains an excellent department, located in the Adirondack Mountains, for the training of forest rangers.

D. HARVARD UNIVERSITY, DEPARTMENT OF FORESTRY, FOREST HILLS,
BOSTON, MASSACHUSETTS.

The department of forestry of Harvard University is devoted wholly to instruction in graduate work and to forest research. The special graduate courses deal with dendrology, silviculture, and forest management, the lumber business, and advanced work in forest physiology. The university work is centered at Forest Hills, a beautiful suburban region of Boston. The research in forestry and the field work are conducted at the Harvard Forest located at Petersham, Massachusetts.

E. PENNSYLVANIA STATE COLLEGE, SCHOOL OF AGRICULTURE, DEPART-
MENT OF FORESTRY, STATE COLLEGE, PENNSYLVANIA.

Pennsylvania State College is located in the town of State College in the State of Pennsylvania. It is beautifully situated on a plateau of 1,200 feet in elevation.

The enrollment of the department of forestry is one of the largest in the United States. There are five instructors directly connected with the department. A four-year course leading to a degree of bachelor of science is offered. The instruction is of very high grade, and the graduates of the institution occupy positions of importance in the profession.

F. PENNSYLVANIA STATE FOREST ACADEMY, MONT ALTO, FRANKLIN COUNTY, PENNSYLVANIA.

The location of this school is at Mont Alto, a village 60 miles southwest of Harrisburg, the capital of the State of Pennsylvania.

This is a State school organized primarily to train men for service in Pennsylvania. The State has over a million acres of public forests requiring many men for their protection and administration. The teaching force of the school consists of seven men, five of whom are engaged in work of purely technical character. The course covers four years and leads to the degree of bachelor of forestry.

G. UNIVERSITY OF MAINE, COLLEGE OF AGRICULTURE, DEPARTMENT OF FORESTRY, ORONO, MAINE.

The University of Maine is situated in the small but beautiful city of Orono, 9 miles from Bangor, the third largest city in the State of Maine. The department of forestry offers a four-year course leading to the degree of bachelor of science. Maine is one of the most heavily timbered States of the Northeast, and the school has exceptional facilities for practical instruction in forestry.

2. FOREST SCHOOLS IN THE CENTRAL STATES.

A. UNIVERSITY OF MICHIGAN, DEPARTMENT OF FORESTRY, ANN ARBOR, MICHIGAN.

Ann Arbor, the seat of the University of Michigan, is a small city in the southern part of the State, a short distance from Detroit, which is one of the most important cities of the Central States.

The training in forestry at the University of Michigan is recognized as one of the most thorough and efficient in the United States. There is a four-year course leading to the degree of bachelor of science in forestry, and a five-year course leading to the degree of master of science in forestry. The faculty of the department, consisting of four instructors, is ably assisted in the allied subjects by instructors in the other departments of the university. The head of the department of forestry is one of the pioneers in the forestry movement in the United States. He was at one time in charge of the Federal forest reserves. He is an educator of note, has written a number of textbooks, and has been a power in advancing the national forestry movement. The school counts among its graduates many able men engaged in forestry work in the United States and tropical countries.

B. MICHIGAN AGRICULTURAL COLLEGE, FORESTRY DEPARTMENT, EAST LANSING, MICHIGAN.

The Michigan Agricultural College, the oldest agricultural school in the United States, is situated near Lansing, the capital city of Michigan.

The department of forestry has an able group of instructors and provides a training of high character. The course covers four years and leads to the degree of bachelor of science.

C. UNIVERSITY OF MINNESOTA, COLLEGE OF AGRICULTURE, FORESTRY DIVISION, MINNEAPOLIS, MINNESOTA.

Minneapolis, Minnesota, is situated on the Mississippi River about 12 hours by rail northwest of Chicago. The university is one of the great educational institutions of the country. An excellent course in forestry covering a period of four years is offered, with opportunities for advanced graduate work. Courses are given in general forestry, and also in work in logging engineering and forest products. An able faculty of six instructors handles the work. Minnesota is a timbered State and affords good opportunities for practical work in the forests and in the many wood manufacturing establishments. The course leads to the degree of bachelor of science.

D. IOWA STATE COLLEGE OF AGRICULTURE AND MECHANIC ARTS, DEPARTMENT OF FORESTRY, AMES, IOWA.

The city of Ames is situated in one of the most prosperous agricultural centers of the United States. The department of forestry offers a four-year undergraduate course leading to a degree of bachelor of science in forestry, permitting the student to specialize either in forest management or lumber marketing. An additional year's work is provided for those who desire to take advanced work leading to the degree of master of forestry. The teaching force of the department consists of five instructors. The head of the forest school is also the State forester of Iowa.

3. FOREST SCHOOLS IN THE SOUTHERN STATES.

A. UNIVERSITY OF GEORGIA, COLLEGE OF AGRICULTURE, DEPARTMENT OF FORESTRY, ATHENS, GEORGIA.

Athens is a charming city situated a short distance from Atlanta, which is one of the most progressive cities of the South. The University of Georgia is at present the only institution in the South that offers a full four-year course leading to a bachelor's degree. There are three instructors in forestry on the staff.

4. FOREST SCHOOLS IN THE ROCKY MOUNTAIN STATES.

A. UNIVERSITY OF MONTANA, SCHOOL OF FORESTRY, MISSOULA, MONTANA.

Missoula, Montana, the seat of the State university, is a small city lying in a beautiful valley just west of the main range of the Rocky Mountains. With a force of five instructors, this school offers two distinct lines of specialization, both leading to a degree of bachelor of

science in forestry. One course is devoted to general forestry and fits the student for technical and administrative positions; the other course is designed primarily for those entering the field of logging and lumbering. The school also gives a 12-weeks' short course training for forest rangers and special courses in grazing of live stock and in lumbering.

B. UNIVERSITY OF IDAHO, SCHOOL OF FORESTRY, MOSCOW, IDAHO.

Moscow, the seat of the University of Idaho, is located in the northern part of the State of Idaho, west of the Rocky Mountains and at an altitude of 2,600 feet.

The school, with a strong faculty of four members, gives a four-year course leading to the degree of bachelor of science in forestry. The institution is situated near one of the largest remaining bodies of virgin forest. It gives special training in lumbering as well as forestry and offers an excellent training for those who may enter Government service or the lumber industry. A short course for forest rangers is also given.

C. COLORADO AGRICULTURAL COLLEGE, DEPARTMENT OF FORESTRY, FORT COLLINS, COLORADO.

The Colorado Agricultural College is situated in Fort Collins, which lies in the eastern foothills of the Rocky Mountains not far north of the large city of Denver, the capital and metropolis of the State of Colorado. A four-year course in general forestry is offered leading to a degree of bachelor of forestry. The graduates are fitted especially for work in Colorado, in the Federal service, in lumbering, and in the handling of live stock under mountain conditions.

D. COLORADO COLLEGE, COLORADO SCHOOL OF FORESTRY, COLORADO SPRINGS, COLORADO.

Colorado Springs, the seat of Colorado College, lies near the eastern base of Pike's Peak, one of the tallest peaks of the Rocky Mountains. The school of forestry offers a four-year course leading to a degree of bachelor of science in forestry. After one or two years of graduate work a degree of master of forestry is conferred. The forestry faculty is ably assisted in allied subjects by instructors in other departments of the college.

5. FOREST SCHOOLS IN THE PACIFIC STATES.

There are three forest schools in the Pacific States which have very high standards of instruction, and are ably administered. Because of their location in or near the greatest lumbering center of the world, they offer excellent opportunities for those who wish to specialize in problems relating to the handling of virgin forests.

A. UNIVERSITY OF CALIFORNIA, COLLEGE OF AGRICULTURE, DIVISION OF FORESTRY, BERKELEY, CALIFORNIA.

The University of California, one of the most important institutions of the country, is located at Berkeley, a beautiful city which lies across the bay from San Francisco.

California contains very extensive forests, with conditions of wide variation and great interest. There is a large area of forest land owned by the Federal Government and the extensive private forests constitute the basis for a thriving lumber industry. The forest school is well equipped and the instruction is given by a strong faculty of able men. Two degrees are offered. The degree of bachelor of science is given at the end of the four-year course; a master of science to those who take an additional year of graduate study. A student may specialize in general forestry, or he may take a course in logging engineering for work in the lumber industry. The school gives an excellent training for public service, for educational work, or for private forestry.

B. UNIVERSITY OF WASHINGTON, COLLEGE OF FORESTRY, SEATTLE, WASHINGTON.

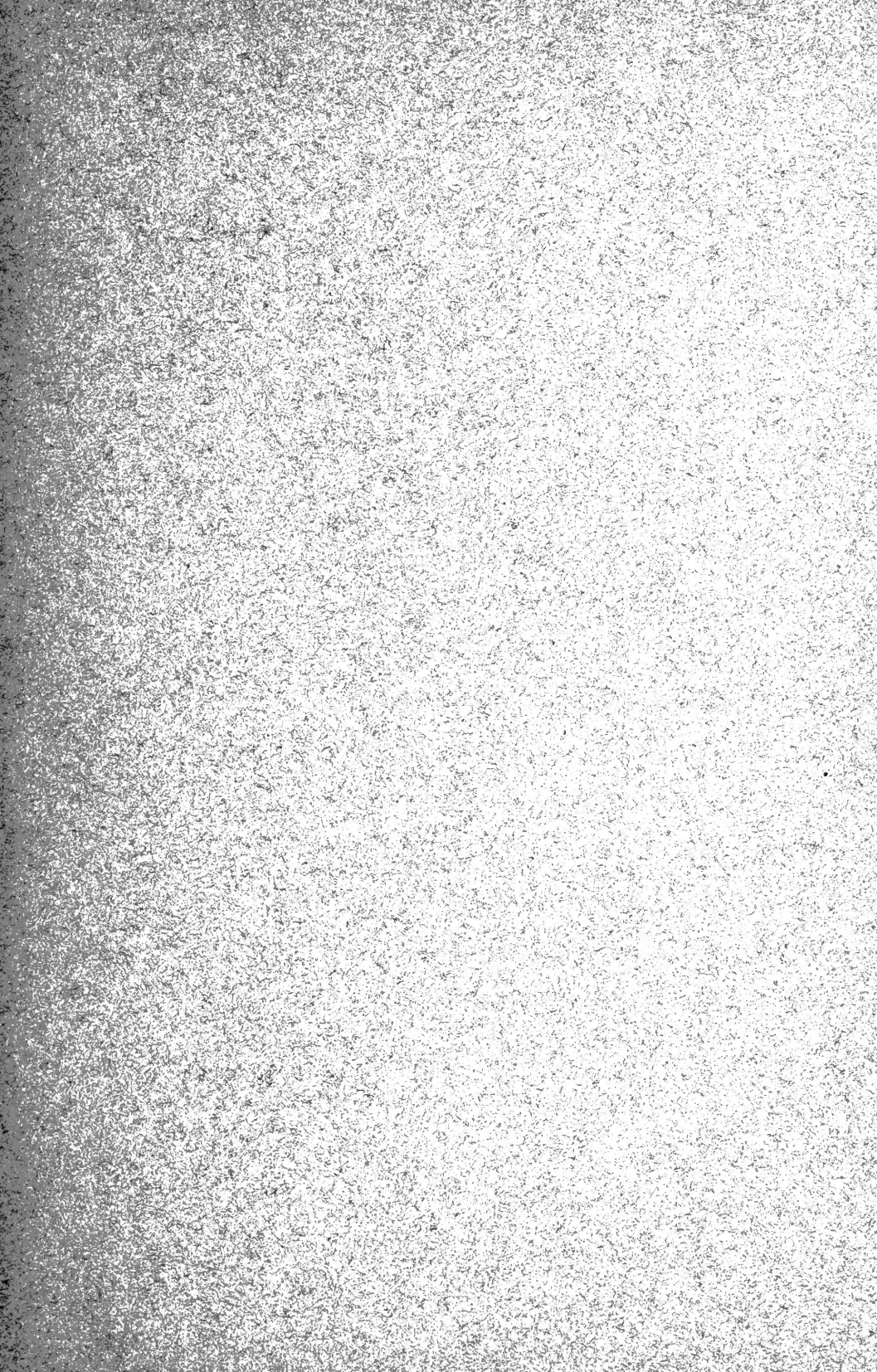
The location of the University of Washington is at Seattle, the metropolis of the Pacific Northwest. This is one of the largest centers of lumber production of the country, being adjacent to the great forests of Douglas fir, a wood that is now distributed throughout the world.

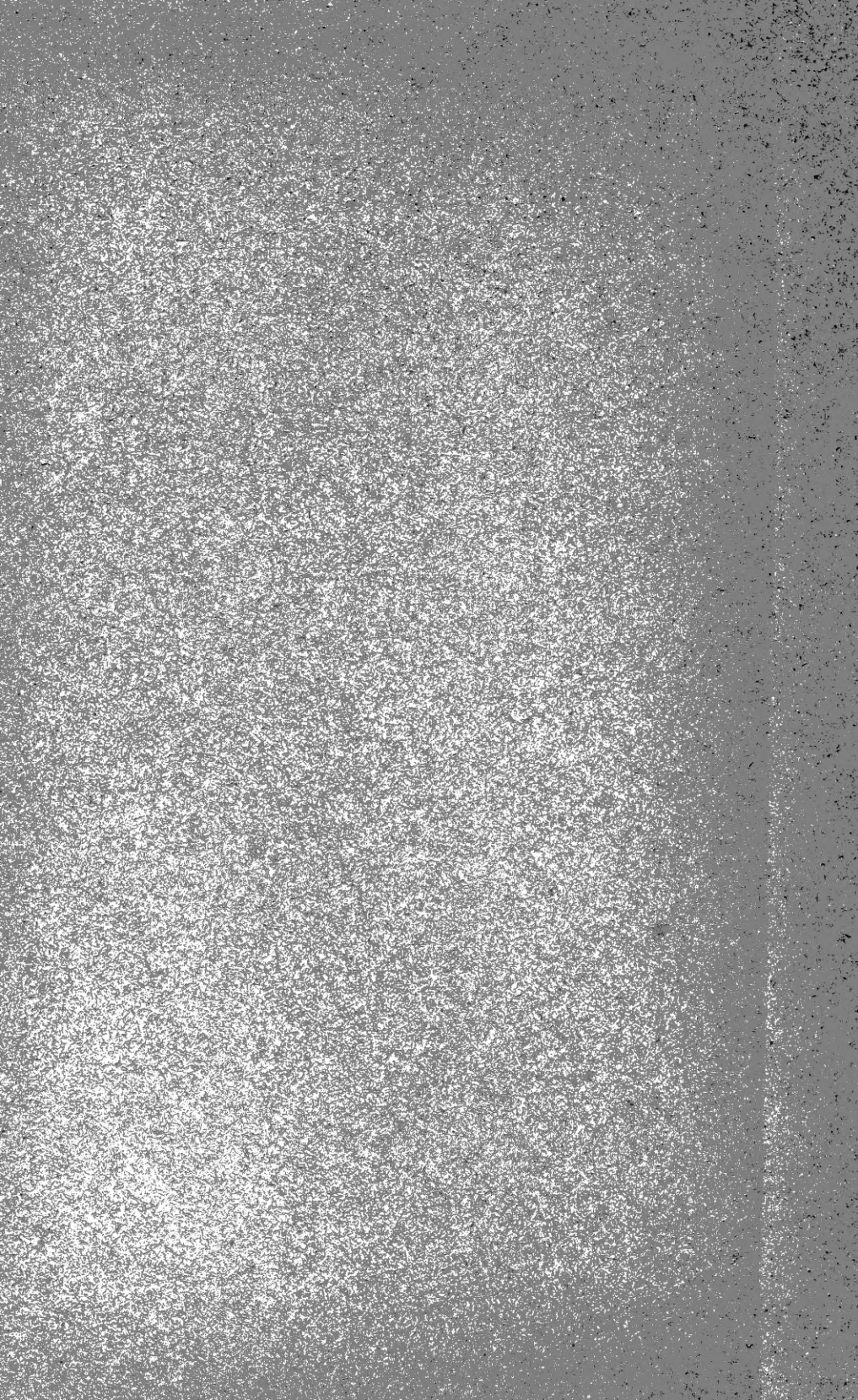
The school offers a four-year course, leading to the degree of bachelor of science, with additional opportunities for advanced work and a master's degree. The course in general forestry is on a high plane. There is also a strong course in logging engineering, for those who wish to enter the lumber industry. There are extensive national forests in the vicinity so that the graduates are well trained for the public service. The faculty is very well equipped and the graduates are making their mark both in general forestry and in the lumber business.

C. OREGON AGRICULTURAL COLLEGE, FOREST SCHOOL, CORVALLIS, OREGON.

The seat of the Oregon Agricultural College is Corvallis, a city situated at the head of navigation on the Willamette River. Like the forest school of Washington, this one is situated within the great lumber region of the Pacific Northwest, with all the facilities for work in the virgin forest conditions.

Two courses are offered, one in general forestry leading to the degree of bachelor of science in forestry and the other in logging engineering leading to the degree of bachelor of science in logging engineering. Four instructors form the teaching force of the school.





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